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Atty's 23459

Pat. App. 10/559,585

CLAIM AMENDMENTS

1 Claims 1 through 3 (canceled)

1 4. (New) A composition for treating crude oils to improve
2 flow and to facilitate extraction from oil wells, which comprises:3 (a) 20 to 30% by volume of a phenolic oil which is a
4 distillation fraction having a distillation temperature range from
5 170 to 190°C;6 (b) 20 to 40% by volume of an absorption oil, which is a
7 distillation fraction having a distillation temperature range from
8 250 to 270°C;9 (c) 20 to 40% by volume of a polymerization oil which is
10 a distillation fraction having a distillation temperature range
11 from 320 to 350°C; and12 (d) balance of the composition up to 100% by volume of a
13 mixture of chemical additives containing a surfactant, a gas

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14 generator, an acidic substance, and a solvent, the density of the
15 composition being 110 to 112 g/cm³.

1 5. (New) The composition for treating crude oil
2 defined in
3 claim 4 wherein the volumetric ratio of the phenolic oil, the
4 absorption oil, and the polymerization oil is 1:1:1.

1 6. (New) The composition for treating crude oil defined
2 in claim 4 wherein the phenolic oil comprises cresols,
3 naphthalenes, and anthracenes with various chemical radicals
4 attached thereto and having a density of 1.15 to 1.20 g/cm³; the
5 absorption oil comprises phenanthrene, fluorene, carbosols, and
6 fluoranthrene and having a density of 1.19 to 1.22 g/cm³, and the
7 polymerization oil comprises pyrene, acenaphthenes, and chrysenes,
8 and having a density of 1.20 to 1.23 g/cm³.

1 7. (New) The composition for treating crude oil defined
2 in claim 4 wherein the mixture of chemical additives consists of
3 25% by weight of a surfactant, 10% by weight of a gas generating
4 substance, which are decomposed at a temperature less than 70°C

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5 causing the generation of gases, 15% by weight of an acidic
6 substance, and the balance solvent to 100%.

1 8. (New) The composition for treating crude oil defined
2 in claim 4 which comprises 30% by volume of a phenolic oil, 30% by
3 volume of an absorption oil, 20% by volume of a polymerization oil,
4 and 20% by volume of a mixture of chemical additives comprising 10%
5 by weight of ammonium carbonate, 35% by weight of nonylphenol
6 ethoxylated with 5 to 9 ethoxy groups, 15% by weight of phenol, and
7 the balance a solvent up to 100%.

1 9. (New) A process for treating crude oils to improve
2 flow and to facilitate extraction from an oil well by preventing
3 formation of deposits clogging oil derricks used in the extraction
4 of the crude oils, which comprises the steps of:

5 (i) injecting a composition which comprises
6 (a) 20 to 30% by volume of a phenolic oil which is a
7 distillation fraction having a distillation temperature range from
8 170 to 190°C;

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9 (b) 20 to 40% by volume of an absorption oil, which is a
10 distillation fraction having a distillation temperature range from
11 250 to 270°C;

12 (c) 20 to 40% by volume of a polymerization oil which is
13 a distillation fraction having a distillation temperature range
14 from 320 to 350°C; and

15 (d) balance of the composition up to 100% by volume of a
16 mixture of chemical additives containing a surfactant, a gas
17 generator, an acidic substance, and a solvent, the density of the
18 composition being 110 to 112 g/cm³;

19 under pressure into a tubing or through a production casing for
20 cruse oil extraction through the oil well;

21 (ii) ceasing fluid extraction from the oil well through
22 the tubing or the production casing into which the composition
23 according to step (i) has been injected, for a period of 4 to 8
24 hours, to penetrate and open up the oil well; and

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25 (iii) following step (ii), resuming extraction of crude
26 oil from the oil well.

1 10. (New) The process for treating crude oils defined in
2 claim 9 wherein an effective amount of the composition to prevent
3 clogging of the oil derricks is injected according to step (i) to
4 ensure a distribution of 5m³ of solution/meter through a perforated
5 portion of the tubing portion.

1 11. (New) A process for treating crude oils to
2 facilitate crude oil extraction from an oil well by preventing
3 formation of deposits clogging lines leading from oil derricks used
4 in the extraction of the crude oils, which comprises the steps of:

5 (i) injecting a composition which comprises
6 (a) 20 to 30% by volume of a phenolic oil which is a
7 distillation fraction having a distillation temperature range from
8 170 to 190°C;

9 (b) 20 to 40% by volume of an absorption oil, which is a
10 distillation fraction having a distillation temperature range from
11 250 to 270°C;

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12 (c) 20 to 40% by volume of a polymerization oil which is
13 a distillation fraction having a distillation temperature range
14 from 320 to 350°C; and

15 (d) balance of the composition up to 100% by volume of a
16 mixture of chemical additives containing a surfactant, a gas
17 generator, an acidic substance, and a solvent, the density of the
18 composition being 110 to 112 g/cm³, through a line for conveying
19 the crude oil, extracted from an oil well, and in the case of a
20 line whose flow there through is blocked, employing a maximum
21 pressure value which is limited by the pressure that the tubing can
22 withstand;

23 (ii) maintaining the pressure within the line for a
24 period of 4 to 8 hours; and

25 (iii) following step (ii), resuming the flow of crude
26 oil through the line from the oil well.

1 12. (New) The process for treating crude oils defined in
2 claim 9 wherein following steps (ii) and (iii), if the crude oil

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3 extraction has not returned to a sufficient level, again injecting
4 the composition according to step (i) into the tubing or through the
5 production casing.

1 13. (New) The process for treating crude oils defined in
2 claim 11 wherein following steps (ii) and (iii), if the crude oil
3 flow through the line has not returned to a sufficient level, again
4 injecting the composition according to step (i) into the line for
5 conveying the crude oil.